

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

United States Department of Agriculture
Bureau of Entomology and Plant Quarantine

A COMBINATION BRUSH AND NEEDLE FOR HANDLING MITES AND CERTAIN INSECTS

By Floyd F. Smith, Division of Truck Crop and Garden
Insect Investigations

In investigations on the tarsonemid mites, a fine dissecting needle and a small soft-bristled brush are essential instruments for handling the individual animals in all stages under the binocular microscope. The needle is used for opening leaf sheaths or spreading delicate plant parts to expose the mites, and the brush is used for transferring the living mites or their eggs without injury. When the usual instruments were employed, much time was lost and many specimens were injured by hurriedly dropping the needle and groping for the brush while attempting to keep the mite in the field of view for completing the desired operation. By mounting the needle in the brush handle (fig. 1) the desired instrument is brought into use by merely reversing the handle. By its use the work has been greatly facilitated and fewer fatalities have occurred among the experimental animals.

The needle is mounted as follows: The end of the handle of a no. 1 sable-hair brush is grooved on one side for approximately one-half inch, and a slight depression is made at the end of the groove (fig. 2, A). A steel no. 1 insect pin, with head removed, is bent at right angles at the cut end. The bent part is forced into the depression and the remainder lies in the groove. The pin is firmly held in place by wrapping with thread (fig. 2, B) and coating with shellac. The end of the pin is then curved and sharpened as desired.

Such a combination instrument apparently is not on sale by biological supply houses. It withstands rather rough usage; some have been in use for four years. The instrument is also very useful in handling gladiolus thrips and red spider mites, in dissecting plant parts, in separating unmounted leafhoppers, and in spreading the wings and legs of insects being mounted on slides.



Figure 1.--Brush with needle mounted in handle.

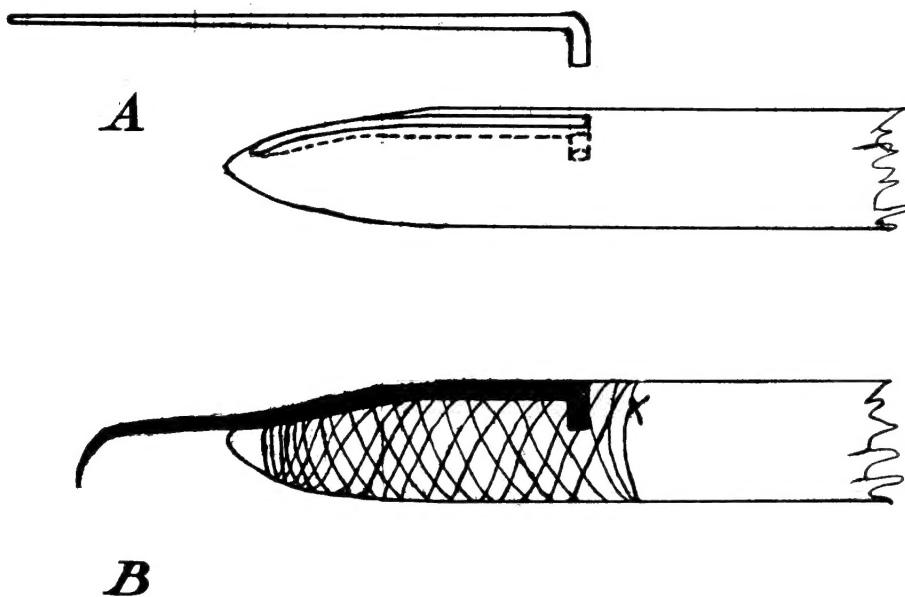


Figure 2.--Details of assembly: A, Insect pin (with head cut off) bent at right angles to fit groove in brush handle. B, Assembled brush handle and needle.

